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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/561,650

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EXAMINER

YOON, TAE H

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

05/18/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/561,650	<b>Applicant(s)</b> MAYSTON ET AL.	
	<b>Examiner</b> Tae H. Yoon	<b>Art Unit</b> 1796	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 16 April 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1,37-53,56-60,62-64 and 66-75 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,37-53,56-60,62-64 and 66-75 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                    | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                          |

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1, 37-53, 56-60, 62-64 and 66-75 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The examiner's understanding and interpretation of the language ("--- thereon, and a layer ---" in line 3 and thus "at least one" in line 2 does not control "a layer of a metallic bearing material" in line 3) in claim 1 is that the claimed structure of a plain bearing has layers of strong backing material substrate/at least one of a sliding layer of a polymer-based bearing material/a layer of a metallic bearing material/a sliding layer of a polymer-based bearing material. However, a plain bearing having such three layers on said strong backing material substrate is not disclosed adequately in the originally filed specification and applicant failed to point out any section of the specification for support. The recited "at least one of a sliding layer of a polymer-based bearing material" encompasses many layers such as 10 layers which does not have support either. Also, the recited "at least one of a sliding layer of a polymer-based bearing material thereon, and a layer of a metallic material thereon with ---" encompasses both layers of a polymer-based bearing material and a layer of a metallic bearing material/a sliding layer of a polymer-based bearing material which does not have support either.

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The recited “at least one of the substrate” in “the polymer-based bearing material is adhered directly to at least one of the substrate” encompass many substrates which does not have support either. It would be new matter.

If the claimed structure is different from one stated by the examiner, a clearer language (such as “either a layer of A (polymer) or a layer of B (metallic and polymer)”) would be needed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 37-53, 56-60, 62-64 and 66-75 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The recited “a total solids content of the polymer-based bearing material does not exceed 35 vol%” in claims 1 and 74 is confusing and indefinite since said polymer-based bearing material is also a solid and “solids” is not defined. Clarification is needed.

The structure of the claimed plain bearing is confusing as the reason given above under 112, 1<sup>st</sup> PP rejection.

The recited “the addition selected from the group consisting of a ceramic powder and silica, further including the ceramic powder content lying in the range from 2 to 20 vol%” in claim 57 is confusing and indefinite since the recited Markush language makes

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the ceramic powder optional when the silica is chosen. The same logic is applied to claim 58.

A structure recited in claim 72 does not require a metallic bearing material and yet claim also recites an adherence to a metallic bearing material. Thus, it is confusing and indefinite. The recited the polymer-based bearing material is adhered to the plain bearing by the adhesive properties of the matrix material in claims 72 and 74 is confusing and indefinite since the plain bearing comprises all of the recited components including the polymer-based bearing material. Also, the recited "a total content of solids addition not to exceed 35 vol%" in claim 74 is confusing and indefinite since it is unclear what encompasses said solids addition and since the addition controls ceramic powder and silica only. Is said solids addition a ceramic powder and/or silica or a mixture of a metal powder, fluoroparticles, ceramic powder and/or silica?

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 74 and 75 are rejected under 35 U.S.C. 103(a) as being unpatentable over Berlinghof, Jr. (US 3,342,667).

A nature of the recited "a total content of solids addition not to exceed 35 vol%" is unclear as pointed out above, and thus the examiner interprets that said solids addition is directed to the ceramic powder and silica only.

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Berlinghof, Jr. teaches 12-32 vol% of solid lubricant (the instant ceramic powder), 18-52 vol% of metal powders and 14-32 vol% of PTFE. Said 12-32 vol% of solid lubricant meet the instant maximum 35 vol% since the silica is optional in the instant claims. The instant claim 75 is silent as to the nature of a metallic bearing material and said metallic bearing material can be same as a strong backing material. Thus a substrate for a bearing taught by Berlinghof, Jr. would meet the invention since one can consider an outer layer of said substrate as the instant metallic bearing material.

Thus, it would have been obvious to one skilled in the art at time of invention to utilize the instant amounts of fillers for the metal powders, PTFE and solid lubricant in the coating composition for a substrate in order to obtain a bearing in Berlinghof, Jr. since choosing a range within a range would be a *prima facie* obviousness absent showing otherwise.

Claims 1, 37-53, 56-60, 62-64 and 66-73 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 1<sup>st</sup> and 2<sup>nd</sup> paragraph, set forth in this Office action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tae H. Yoon whose telephone number is (571) 272-1128. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu can be reached on (571) 272-1114. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Tae H Yoon/  
Primary Examiner  
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THY/May 15, 2010